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PLANT PEST INFORMATION UPDATES  
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U.S. Department of Agriculture (USDA)  
Animal and Plant Health Inspection Service (APHIS)  
Plant Protection and Quarantine (PPQ)

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PLANT PESTS REPORTED TO THE NEW PEST ADVISORY GROUP (NPAG)  
JULY THROUGH SEPTEMBER 1984

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NEW PLANT PESTS

CITRUS CANKER IN FLORIDA

Citrus canker, a serious bacterial disease of citrus, has been detected in the United States in Florida for the first time since it was eradicated in 1943. The disease was detected in a wholesale citrus nursery at Avon Park, Polk County, on August 27, 1984. Specimens were collected by H. Burnett (Florida Department of Agriculture and Consumer Services (FDACS)). Dr. J. Miller (FDACS) identified the pathogen as Xanthomonas campestris pv. citri (Hasse) Dye, on August 28, 1984; Dr. E. L. Civerolo (Agricultural Research Service (ARS)) and Dr. J. M. Sasser (University of Delaware) confirmed it on September 7, 1984. The strain in Florida differs from strains A, B, or C but resembles A in its symptoms.

Citrus canker is important because it is a very infectious disease affecting the appearance of citrus fruit. Lesions develop on the fruit, leaves, twigs, branches, and bark. Leaves and fruit drop. Currently, the Florida strain has produced lesions only on the leaves and twigs. Tests are being run to determine whether this strain infects the fruit. Previously, when the pathogen was first introduced into the United States in a nursery in Florida around 1912, eradication in Florida cost \$2.5 million with over 0.25 million grove trees and 3 million nursery trees destroyed.

The Secretary of Agriculture signed an Emergency Declaration on September 11, 1984. The declaration authorized implementation of effective program actions to detect, prevent the spread of, and eradicate the disease in Florida. Federal and State efforts in the eradication involve burning citrus plants in the infested nursery and in a radius of 38.1 m around it, defoliating trees in adjacent groves, and spraying exposed trees with a copper solution. All groves that have received material from infested nurseries either have undergone or are undergoing eradication procedures. Fruit is allowed to move from a grove after survey of the grove shows no evidence of the disease. Packing houses are under compliance agreements to dip all citrus fruit in a chlorine solution before shipping under limited permit to noncitrus-producing States. The State implemented regulations to stop the movement of citrus nursery stock until adequate surveys determined where plant material was shipped from infested nurseries and if citrus canker is present.

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The source of the citrus canker infestation is unknown. Inspection of the nursery at Avon Park was negative in 1983. When it was discovered that this nursery had shipped plants to other nurseries and commercial groves in Florida, almost 85 percent of the citrus nurseries in Florida were inspected for citrus canker by September 28. To date, citrus canker has been detected in seven nurseries in four counties: Collier, Hendry, Highlands, and Polk. Eradication procedures are being applied to nurseries that are infested or have received plants from infested nurseries. No citrus canker has been detected in citrus groves.

Four workers who budded plants in the original infested nursery at Avon Park, Florida, also worked in Louisiana in 1984. Surveys were started in Louisiana on September 27.

#### HONEY BEE MITE IN TEXAS

Honey bee mite, Acarapis woodi (Rennie), Acari: Tarsonemidae, was detected for the first time in the United States in Texas on July 3, 1984. This parasite infests the tracheae of honey bee, Apis mellifera Linnaeus, and another bee Apis cerana Fabricius (Hymenoptera: Apidae). Infested bees weaken. The colony may develop abnormally and die. The mite is transmitted by drifting bees, drones that move to other colonies, and by worker bee contact at feeding stations. This mite occurs through most of Europe, parts of Africa and eastern Asia, through South America, and in Mexico. Establishment of this mite in the United States could have a major effect on crop pollination and the production of bees for domestic and export sales worth over \$60 million.

In Texas, all stages of A. woodi were collected from honey bees in three colonies at Weslaco, Hidalgo County, by T. Billak (PPQ). D. Riley (Area Identifier, PPQ) identified it to species on July 5, 1984, and M. Delfinado-Baker (Research Associate, Bioenvironmental Bee Laboratory (BBL), ARS, verified it on July 6. All of the colonies were owned by one beekeeper, who did not know how or when his bees became infested. The mite has been present in the United States at least since 1983 although a national survey in 1982 did not detect it. The movement and sale of bees from the original beekeeper at Weslaco have apparently spread the mite in this country.

Soon after discovery of the mite, an NPAG ad hoc committee met on July 11, 1984, to recommend actions against A. woodi to H. L. Ford, Deputy Administrator, PPQ. The committee based their recommendations on these pertinent points.

1. PPQ found A. woodi infesting colonies belonging to a beekeeper, who also bred queen bees, in Weslaco, Texas.
2. PPQ is sampling colonies to detect A. woodi in Walla Walla, Washington, and in Pecos and Houston, Texas, where the breeder had sent bees.
3. Beekeepers are expected to be the primary mode of spread of the honey bee mite through the movement of colonies and queen and package bees.



4. Folbex, an acaricide used to control A. woodi in beehives, is not an eradication material and is not registered in the United States.
5. A. woodi cannot survive in a free state. It completes its life cycle in bee tracheae. Adults move from one bee to another and eventually lay eggs in the tracheae of a young bee.
6. Substantive quarantine measures are necessary to prevent the continual reintroduction of these mites into the United States.
7. Membership of the Technical Committee for African Honey Bee and Parasitic Bee Mites includes expertise from industry, research, extension, and the regulatory communities. Expertise in dealing with further A. woodi situations can be drawn from this group.

By September 7, 1984, Mr. Ford concurred that PPQ would

1. Implement eradication measures if the infestation is within a limited geographic area and localized to the extent that eradication is practical.
2. Coordinate and participate in a nationwide cooperative survey and mite identification program to determine the presence of A. woodi.
3. Determine whether quarantines for honey bee mites are effective in Mexico.
4. Evaluate the honey bee mite distribution at the conclusion of survey activities and determine whether continued regulatory action is warranted.
5. Request ARS to conduct research for regulatory and control treatments for honey bee mites.
- 6-7. Request the Technical Committee for African Honey Bee and Parasitic Bee Mites to develop further recommendations, and assign an additional member to this committee to have operational expertise available to PPQ.
8. Intensify the ongoing detection survey on both sides of the U.S. and Mexican border.

While Federal and State officials developed plans on the control of this mite, the movement of bees by the infested beekeeper was traced, and delimiting surveys conducted. Infestations in Texas were located in six major areas: The lower Rio Grande Valley area in Cameron, Hidalgo, Starr, and Willacy Counties; Three Rivers area in Bee and Live Oak Counties; Corpus Christi area in Nueces County (This infestation has no apparent connection with the original beekeeper at Weslaco.); Houston and Baytown area in Harris County; Pecos and Reeves Counties; and Turkey area in Floyd, Hale, Hall, and Motley Counties.

In Texas, all bees were killed in an infested colony, in other colonies within a 0.8-km radius, and in other colonies elsewhere owned by the same keeper that may have comingled with the infested colony. By September 21, bee kill was completed in 2,600+ colonies belonging to 14 beekeepers and in a few feral colonies. No bees were killed in the generally infested lower valley.



Queen bees from the original Texas beekeeper were traced to a Louisiana beekeeper who had received the bees in 1983. Acarapis woodi was thus detected on August 20, 1984, in Louisiana in New Iberia, Iberia Parish. M. Delfinado-Baker (Research Associate, BBL, ARS) identified it on August 24, 1984.

Delimiting surveys in Louisiana began August 22. Colonies were sampled for 4.8 km around each of this beekeeper's bee yards, which were also located in St. Martin and Vermilion Parishes. Eight samples were positive in five yards. Iberia, Lafayette, St. Martin, St. Mary, and Vermilion Parishes are under State regulation. Bees are being killed within 1.6 km of the infested yards, feral colonies within 3.2 km, and all other apiaries will be monitored for infestations.

Sampling results for other States that have received bees directly or indirectly from the Texas source were negative. These States were Idaho, Michigan, Minnesota, Mississippi, Washington, and Wisconsin. Surveys are planned in all States for this fall and winter.

The Mexican border was surveyed by the end of August. Infested colonies were found in Matamoros, Rio Bravo, Reynosa, and Ciudad Miguel Aleman across from the regulated area from Cameron County to Starr County, Texas; in Piedras Negras across from Eagle Pass; in Janos and Nuevo Casas Grandes across from El Paso; and in Cibola 24 km south of Nogales, Arizona and New Mexico.

Federal and State emergency regulations were established to prevent further dissemination of the mite. By August 10, the following Texas counties were regulated: All of Cameron, Hidalgo, Starr, and Willacy, and parts of Bee, Chambers, Floyd, Hale, Harris, Live Oak, Motley, and Swisher Counties. Regulated articles included honey bees, used bee boards, hives, frames, nests and related material, beekeeping equipment, shipping containers, beeswax unless liquified, pollen for bee feed, and comb. Texas has parallel regulations in effect. Federal Emergency Action Orders were issued to beekeepers in affected areas of Louisiana. Currently, the Federal quarantine is being revised to regulate the new finds.

#### NEW DISEASE OF CHICKPEAS FOR THE UNITED STATES

Ascochyta rabiei (Passerini) Labrousse was first detected in the United States in Washington on Cicer arietinum (chickpea) in July 1983. The fungus was found on a ARS research plot at Pullman. Dr. W. J. Kaiser (Plant Pathologist, ARS, Pullman, Washington) identified it; the Commonwealth Mycological Institute (Kew, England) confirmed it in September or October 1983. The NPAG was notified on August 22, 1984. Eradication attempts were made in 1983, but the disease reappeared in research plots in 1984. This blight could be in commercial fields in Washington; it has been detected in commercial chickpea fields in Idaho. The outbreak occurs in the Palouse region of eastern Washington and northern Idaho.

This ascochyta blight is one of the most important diseases of chickpea. Severe epidemics have been reported from many chickpea-growing countries. Pakistan lost about 70 percent of the crop in 1979 and 1980.



A. rabiei has been reported from Algeria, Australia, Bangladesh, Bulgaria, Canada, Cyprus, Ethiopia, France, Greece, India, Iran, Iraq, Israel, Italy, Jordan, Lebanon, Morocco, Pakistan, Romania, Soviet Union, Spain, Syria, Tanzania, Tunisia, and Turkey.

Cicer spp. (chickpeas) are the only hosts of A. rabiei. Artificial inoculation has induced infection in Vigna unguiculata (cowpea) and Phaseolus vulgaris (bean).

Symptoms appear as lesions on the above ground parts of the plant. The leaflets bear round or elongated lesions with irregularly depressed brown dots, surrounded by a brownish red margin. The green pods have usually circular lesions with dark margins and pycnidia arranged in concentric circles. On the stem and petiole, the lesions are brown, elongated, bearing black dots and often girdle the affected portion. Symptoms are not always visible on contaminated or infected seed.

#### MAIZE MOSAIC VIRUS IN FLORIDA

The first definitive identification of maize mosaic virus (MMV) in the continental United States was reported by O. E. Bradfute and J. H. Tsai in southern Florida (Plant Disease 67(12):1339-1342; 1983). Previous reports of this rhabdovirus in the continental United States were not confirmed.

MMV seriously reduces yields of corn, the major host. All of its hosts are in the grass family, Poaceae. This virus is reported in the literature from Hawaii, Puerto Rico, and other parts of the tropics and neotropics.

#### A MEALYBUG NEW TO HAWAII

Specimens of a mealybug, Maconellicoccus hirsutus (Green), Homoptera: Pseudococcidae, on hibiscus in Aina Haina on Oahu Island, Hawaii, were first collected and identified by Dr. J. W. Beardsley (Coccidologist) on September 23, 1983. The identification was confirmed by Dr. D. R. Miller (Research Entomologist, SEL, IIBIII, ARS) on June 18, 1984. The NPAG was notified of the confirmation on August 29, 1984. This mealybug is new to the United States.

M. hirsutus is severe on cotton in North Bihar, India, and hibiscus in the Philippines. In India, the tender apical leaves of mulberry plants curl, wrinkle, and crumple, virtually stopping the growth of the plant and reducing the yield of leaves. The damage results in the characteristic "bunchy top."

M. hirsutus is found in tropical Asia, Africa, New Guinea, and Australia. Some of its important hosts are Albizia julibrissin (silktree albizia), Albizia lebbek (lebbek), Arachis hypogaea (peanut), Bauhinia spp., Ceratonia siliqua (carob), Citrus spp., Cydonia oblonga (quince), Erythrina spp., Gossypium hirsutum (cotton), Grevillea robusta (silk-oak), Hibiscus spp., Morus spp. (mulberries), Psidium guajava (guava), Vigna spp. (beans), Vitis spp. (grapes), and Ziziphus spp.



## A DAYFLOWER DETECTED IN FLORIDA

Specimens of a dayflower Commelina forskalaei Vahl (Commelinaceae) were detected in Miami, Florida, on a Dade County sanitary landfill, the only known site of infestation in the United States. Dr. R. Faden (Botany Department, Smithsonian Institute, Washington, DC) identified it to species and stated that the weed was first collected on February 2, 1980. The NPAG received notice of the new weed on July 9, 1984. Florida officials sprayed the infested area with herbicide in early September 1984, surveyed the area with negative results, and plan a followup survey.

This weed is considered economically important in India. It is associated with Abelmoschus esculentus (okra), Gossypium hirsutum (cotton), and Sorghum vulgare (sorghum).

C. forskalaei is found in dry areas. It occurs in Cameroon, Chad, Ethiopia, India, Madagascar, Mali, Mozambique, Nubia, Senegal, Sudan, Zimbabwe, and Yemen (Sanaa).

## A PSYLLID NEW TO NORTH AMERICA

A psyllid new to North America was reported for California. Specimens of Calophya schini Tuthill (Homoptera: Psyllidae) were collected on Schinus molle (California peppertree) at a residence in Long Beach, Los Angeles County, on July 18, 1984, by M. Miller. R. Gill (California Department of Food and Agriculture) identified it to species on July 18, 1984; D. Miller and L. M. Russell (Research Entomologists, SEL, IIBIII, ARS) confirmed the identification on July 27, 1984. Additional specimens were collected at a residence in Fullerton, Orange County, on July 19; in Torrance, Los Angeles County, July 29; and at a nursery in Seal Beach, Orange County, August 2.

C. schini is known from Peru and Chile, only on California peppertree. Nymphs form small hollows on the leaves of the host, sometimes deforming growing young leaves. This pest has never been known to kill a tree.

An NPAG ad hoc committee met on September 18, 1984, to recommend actions for C. schini to Mr. Ford on October 4, 1984. The committee based their recommendations on three pertinent points.

1. California is not presently concerned with the population of C. schini according to R. Gill.
2. C. schini has not infested Schinus terebinthifolius (Brazilian peppertree) or Pistacia vera (pistachio), both in the Anacardiaceae family with California peppertree, in the area where the psyllid occurs.
3. California peppertree is an ornamental tree with no significant economic importance.



## A WEEVIL NEW TO NORTH AMERICA

Seven specimens of a weevil Tychius cuprifer (Panzer), Coleoptera: Curculionidae, were collected in a field behind a warehouse at Elkton, Cecil County, Maryland, on May 31, 1984, by E. J. Ford and J. F. Cavey (PPQ). Four additional specimens were collected on June 21, 1984. The specimens were tentatively identified by Dr. D. R. Whitehead (Research Entomologist, SEL, IIBIII, ARS) on June 19, 1984. They were confirmed on July 10, 1984, by W. Clark (Auburn University, specialist in the subfamily Tychiinae).

This species is generally found in southern Europe and North Africa (circum-Mediterranean at least in West), the species becoming less abundant northward into the interior. Adults of T. cuprifer have been collected from Trifolium arvense (rabbitfoot clover) and T. stellatum. Larval hosts are unknown. About 10 species in Tychius damage Medicago spp. (alfalfa), Trifolium spp. (clovers), and other crops in the United States.

An NPAG ad hoc committee met on September 7, 1984, to recommend actions for T. cuprifer to Mr. Ford, on September 25, 1984. The committee based their recommendations on these pertinent points.

1-2. The NPAG located no pertinent literature for Tychius cuprifer. D. Whitehead, ARS, stated that he was not able to find additional information on this species or its pest status.

3. U.S. species of Tychius rarely damage leguminous crops in the United States, according to T. Elden, ARS.

## UPDATES ON ACTIONS AGAINST NEW PLANT PESTS

### MEDITERRANEAN FRUIT FLY IN FLORIDA

The first find of Mediterranean fruit fly, Ceratitis capitata (Wiedemann), Diptera: Tephritidae, in Dade County, Florida, in June 1984 was reported in Plant Pest Information Updates (PPIU)--July 1984. Currently, two immature males were trapped by July 4 in sour orange trees. On August 8, two adult males were collected from two traps in sea grapes at the west end of Dodge Island. Dodge Island is outside of the spray zone but within the regulated area. Ground sprays were applied. Mediterranean fruit fly totals for the county now include 13 adults in 8 sites; no other adults were trapped through September 30. Larval finds remain at one since June. The area contains no commercial fruit groves. Final treatment was made on September 28. Surveys and regulatory actions will continue for two generations.



## ORIENTAL FRUIT FLY IN CALIFORNIA

Delimiting and monitoring surveys in California trapped males of oriental fruit fly, Dacus dorsalis Hendel (Diptera: Tephritidae) in Los Angeles County from June 27 through September 27, 1984. A total of 16 females (one mated) was collected at 7 sites in the Inglewood and Westchester area from August 7 through 30 in McPhail traps. Larvae (18 third instar, 1 second instar, and 1 pupa) were collected from a Catalina cherry hedge on one Westchester property on August 14. Fruit stripping and destruction, and ground bait sprays were made in the area of the larval find. Bait spot male annihilation treatments continue in the areas around the adult finds. Federal regulations were effective on August 31.

## Dacus latifrons IN TOMATOES IN HAWAII

Natural infestations of the new fruit fly, Dacus latifrons Hendel (Diptera: Tephritidae) have been found in tomatoes as a secondary host and nightshade as a primary host in Hawaii. No commercial plots are infested to date. The fruit fly was reported in chili peppers and eggplants on Oahu Island, Hawaii, in PPIU--July and October 1983.

## THRIPS IN HAWAII

An NPAG ad hoc committee met on July 31, 1984, to evaluate Thrips palmi Karny (Thysanoptera: Thripidae). This polyphagous species was first collected on Oahu, Hawaii, in July 1982 and identified in April 1984 (PPIU--July 1984). In developing recommendations for Mr. Ford, the ad hoc group considered the following pertinent points.

1. T. palmi was collected on beans, cucumbers, eggplants, and watermelon at Talofofo, Guam, on March 1 and 2, 1984. This species is also reported to be established on Oahu, Hawaii.
2. This thrips prefers to feed on cucurbits according to S. Nakahara (ARS).
3. T. palmi is usually intercepted on cut flowers from the Orient.
4. PPQ takes action at U.S. ports of entry when this thrips is intercepted.
5. PPQ officers should be alerted about the potentially serious nature of T. palmi to protect the mainland from possible introduction of this pest from Hawaii.
6. The bright yellow adults of T. palmi make them easy to detect in cut flowers.
7. T. palmi has a wide distribution in Asia and an extensive host range.



## ACTIONS FOR AN ERIOPHYID MITE ON COCONUTS

An NPAG ad hoc committee evaluated on July 16, 1984, the eriophyid mite on coconuts reported as new to the United States. Aceria guerreronis Keifer (Parasitiformes: Eriophyidae) was collected in Florida in Monroe County in February 1984 (PPIU--July 1984). The committee based its recommendations to Mr. Ford on the following points. The probability of A. guerreronis becoming economically important in the United States appeared slight because few coconuts are grown as a commercial crop here. It might become economically important in the Southwest if this mite extended its host range to date palm, Phoenix dactylifera. Also, Florida officials plan no action against this mite. Mr. Ford concurred with the following recommendations on August 29.

1. The NPAG should not meet in full session.
2. PPQ will take no action now.
3. PPQ will provide basic information about this mite and its association with coconut to State and Territory agricultural regulatory officials.

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Please telephone identifications of plant pests new to the United States to the NPAG Executive Secretary on (301) 436-7472. Information may be sent to the NPAG Executive Secretary at Biological Assessment Support Staff, National Program Planning Staff, PPQ, APHIS, USDA, Room 633, Federal Building, Hyattsville, MD 20782. Comments improving this report are appreciated. Corrections of a substantive nature will be noted.



